IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF GEORGIA
ATLANTA DIVISION

UNITED STATES OF AMERICA *ex rel*
MARK BUCHBINDER,

Plaintiff and Relator,

vs.

THE BOEING COMPANY

Defendant

Civil Action No.

1 19-CV-5167

COMPLAINT FOR VIOLATION OF THE FALSE CLAIMS ACT AND MAJOR FRAUDS AGAINST THE UNITED STATES ACT

Relator, without counsel, but seeking the intervention of the US Department of Justice to act on behalf of the United States of America brings this case.

Relator (hereafter often "I," "me," "my,") argues that the 11th Circuit Court of Appeals ruling in Timson v. Sampson, 518 F.3d 870 (11th Cir. 2008) is precedent for any person, as a Relator, to bring a "*qui tam*" suit under the False Claims Act, 31 U.S.C., § 3729, although that person cannot maintain the suit or litigate it on behalf of the United States. This is adequate, as it is not likely that I will pursue this case absent the participation of the US Government and the suit will not likely succeed unless the Government agrees it has been injured and seeks relief.

My declaration to lawyers that I will abandon this action unless the Government intervenes has impeded obtaining representation; lawyers refuse to agree to withdraw the suit if the Government fails to intervene. Also, lawyers have refused to agree to limit my financial responsibility despite oral promises of "contingent" style representations.

A further impediment to finding a lawyer is that this suit describes engineering designs regulated by International Traffic in Arms Regulations (ITAR.) Some lawyers who claim to specialize in *qui tam* suits against defense contractors do not even seem to be aware of ITAR. Also, some lawyers seek to involve expert engineering consultants at my expense. Absent my willingness to pay for uncapped expenses, there is an economic disincentive for the lawyer. Further, because the defendant has many suppliers of hardware and engineering services, there are manifold possible conflicts of interest for both lawyers and engineers, some of which may be difficult to discover.

Accordingly, finding a private lawyer who is competent, unimpeded by conflicts of interest, and undemanding of prompt, assured, and outsized compensation (which may not be afforded by this case,) is a practical impossibility. Defendant is likely aware of such impediments and is emboldened by the improbability of a whistleblower acting without a lawyer.

Believing that the court will accept my interpretation of Timson v. Sampson, I will inform and make full disclosure to both (1) the United States Attorney's office in the Court's district and (2) the Attorney General of the United States, as required by applicable law and described by procedural advisories promulgated by the Department of Justice (DoJ.)

If the Court finds Timson v. Sampson not applicable, then I request that the Court treat this filing as a petition for redress of grievance and allow the petition to be addressed by whichever Executive Department of the US Government I can persuade to intervene, while preserving my right of recovery as Relator under the False Claims Act.

If, as regards any particular claim of this suit, the statute of limitations has expired under the False Claims Act, then I ask the court to consider that some frauds may still be subject to 18 USC § 1031 "Major fraud against the United States."

Anticipating the Court's acceptance of any of the arguments or requests above, Relator brings this Complaint alleging as follows:

I. INTRODUCTION

1. This is a *qui tam* action against defendant The Boeing Company. Relator is a former employee of the Boeing Company who has worked at Boeing facilities that (1) design, (2) manufacture, (3) assemble, (4) procure from subcontractors, and / or (5) warehouse and distribute military hardware. This hardware is sold to the US Government or, if approved by the US Government, foreign militaries or their commercial agents. Critically, these goods are represented to customers as being subject to test and inspection schemes devised and practiced by Boeing or otherwise approved and subject to Boeings oversight and capable of assuring to a high degree of probability that the goods conform to all contract requirements. Relator worked between November 2003 and November 2016 as a Quality Engineer and has direct knowledge that Boeing, contrary to its obligations and assurances, sells nonconforming parts[(1)] to the United States Department of Defense (DoD) or incorporates nonconforming parts into products such as military aircraft and ground trainers sold to the DoD.

2. The nonconforming hardware and quality assurance practices described in this document were encountered by Relator in the direct performance of his job. It is a reasonable inference, as is supported by evidence presented in exhibits, that such nonconforming hardware are not exceptions but originate from common causes and are likely sold to the US Government by Boeing either as piece parts or incorporated into larger assemblies or finished products such as

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[(1)] "Nonconforming parts" is a term of art used in Engineering to designate parts which are not manufactured to the exact requirements of the engineering document(s) which describe the parts. The term has been adopted in laws and regulations. Despite the pejorative terminology, nonconforming parts may be safe and functionally "airworthy," or "serviceable," or "fit-for-flight." Nevertheless, if nonconforming parts are represented to be conforming, such sale is fraudulent within the scope of the False Claims Act. This type of fraud has the specific designation "product substitution." See also DoD Instruction 7050.05 for definitions.

air planes. Another reasonable inference is that Boeing's business and engineering practices are designed and intended to obscure the existence of the nonconformances and Boeing's failure to perform its contractual obligations. Relator has repeatedly informed Boeing Quality Managers of the facts described herein and the implications of those facts. In some instances, Relator has also informed Boeing's so called "Ethics Department." As a result, Relator was subjected to harassment, intimidation, and career limitation, including dismissal by layoff (under a pretext of lack of work) into forced retirement. Rather than make disclosures to the United States Defense Contract Management Agency (DCMA) or any of the various military departments (e.g. the Department of the Air Force or the Department of the Army,) Boeing chose to conceal information from the government – and not merely by omission but, sometimes, by creating false records, particularly, additional records that would obscure the existence of nonconforming conditions or Boeing's failure to comply with contractual obligations that would assure that hardware would conform to contract. These falsified records were made, and despite being identified as false (by Relator to Boeing Quality Managers,) the falsification was not disclosed to the Government as required by Federal Acquisition Regulations (FAR) Clause 52.203-13. Under that clause, federal contractors must make timely disclose in writing to the agency Inspector General and contracting officer credible evidence of certain violations of law, including the civil False Claims Act. Boeing has been disciplined and relentless in evading disclosure as even minor disclosures might lead to discovery of fraud that would undermine a significant source of its profit. As noted by the US Air Force Inspector General:

"The key to prevention, detection and reporting of FWA [Fraud, Waste, and Abuse] is the recognition of conditions that allow exploitation of management controls. It is important to remember that these indicators often appear as minor administrative or managerial irregularities on the surface, but the 'indicators' of these conditions provide the initial warning and indicate the need for closer scrutiny by functional managers and commanders." (From USAF *Inspector General Guide to Fraud, Waste, or Abuse Awareness*, current issue, release date September 2014.)

3. The frauds described here have all of, or several of, these five components:

(1) Boeing failed to create and maintain the technical data packages [TDP] (engineering documents including blueprints, materials specifications, process specifications, detailed manufacturing work instructions and quality inspection instructions) needed to assure that the products contracted for by the Government would be faithfully supplied in their qualified, conforming condition. The failure to keep fully useful blueprints was despite a plain language declaration on the face of F-15 and F/A-18 drawings that the drawings were "complete." In C-17 logistics contracts there is a plain language requirement to maintain the drawings. This failure to maintain TDPs includes tolerating willful omissions or deceptions or favorable "mistakes" even when identified to Boeing management and Boeing "subject matter experts." Further Boeing created or tolerated a system where there was a virtual certainty that front-line production workers (e.g. unionized Sheet Metal Mechanics) or, better still, workers at suppliers, would make errors favorable to Boeing. That is, Boeing knowingly created or willfully tolerated a system where contract requirements were likely to be interpreted and fulfilled using less costly materials and processes than should have been used to comply with contracts' associated engineering documents. Moreover, knowledge of these noncompliances were either withheld from or misrepresented in communications with the US Government or other customers.

(2) Boeing failed to sustain organizational behavior that recorded, communicated, and understood contractual obligations; Boeing failed to reject specious but appealing (because

profitable) justifications for accepting nonconforming product. Again these were Boeing's willful choices.

(3) Boeing failed to restrain (and indeed offered inducement to) "trusted" Boeing personnel (including those in Human Resources, Ethics, Suppler Management, Suppler Quality Engineering, and Quality Assurance departments) who intimidated otherwise ethical personnel into ignoring frauds or cozened naïve personnel into believing that fraudulent activity was not fraudulent.

(4) Boeing failed to maintain a Quality Management System (QMS), staffed by competent people of good integrity, capable of detecting and rejecting nonconforming product.

These were Boeing's willful choices. This should be further considered in light of the fact that Boeing largely abolished routine receiving inspection of purchased goods and reduced the capability of its testing laboratories. The consequent vulnerability to accepting nonconforming hardware was not offset by improved vigilance in the Supplier Quality organization and enabled the frauds described here.

(5) Boeing, still again by willful choice, failed to comply with the Value Engineering clause of contracts, usually DFAR 52.248-1 VALUE ENGINEERING (IAW FAR 48.201(b), FAR 48.201(f)).

4. Contract FD2060-10-21091and FA8526-12-D-0001 between Boeing and the USAF for logistics support of the fleet of C-17 cargo aircraft are used as general and specific examples of government contracts with Boeing. In particular the contracts invoke and are deemed in compliance when Boeing complies with Society for Automotive Engineers (SAE) Aerospace Standard AS9100, "Quality Management Systems - Requirements for Aviation, Space and Defense Organizations".

A) Contract FD2060-10-21091, paragraph 4.13.11 Quality Assurance Management, states

"The Contractor shall provide a quality management system that is compliant and registered with internationally recognized quality management standards."

B) Contract FA8526-12-D-0001 invokes Quality Standard AS9100 one hundred and eighty-five times, mainly for "line item" requirements of the contract.

5. The problem of nonconforming hardware and the breakdowns in the quality functions at Boeing, pose, at least, reliability risks to aircraft manufactured by Boeing and to other Boeing weapon systems and training systems. Lower reliability results in increased maintenance costs and decreased economic and functional utility. Moreover, these problems increase procurement costs of spare parts and tend to mislead government planners, procurement agents, and engineers about true costs and optimal procurement and maintenance practices resulting in additional (although difficult to quantify) costs. In particular, it is possible that the Government had approved some Boeing proposals for design changes based on flawed assumptions about the baseline design and what has been supplied. That is, Boeing's technical data packages may direct various particulars which the Government believes have been accomplished; nevertheless Boeing has supplied hardware that although functional is not compliant with the technical data package and, therefore, not compliant with the applicable contract. The Government then, unwittingly, basing its decisions about maintenance intervals, preservation of spare parts in storage, etc. on the belief that Boeing was compliant, grants engineering change proposals that might not have been granted had it known the true state of the Boeing hardware in its actual baseline configuration. As an example, it is possible that the Government has promulgated engineering standards that prohibits the use preservation fluids on aircraft hydraulics partly based partly on flawed and misleading understandings of Boeing's practices. That is, thinking Boeing is using preservation fluid and seeing no benefit, the Government ceases to specify the use of preservation fluid for hydraulic

parts. Nevertheless, Boeing may never have consistently used preservation fluid as demonstrated in the exhibit attached to this complaint.

6. As stated above, this suit encompasses contracts between Boeing and the Government for procurement of hardware that require that Boeing maintain Quality Management Systems, typically the latest revision in effect of SAE AS9100 (Revision C between 2007 and 2016) "Quality Management Systems - Requirements for Aviation, Space and Defense Organizations." This standard required (in section 7.4.1) that Boeing ensures that purchased products conform to requirements of purchase contracts. As will be outlined below, and in detail via attached exhibits, Boeing, makes deliberate efforts to obscure noncompliance by suppliers. The disclosure to the DoJ will describe incidents of Boeing employees writing documents that gave the appearance that engineering requirements were satisfied. These documents use fantastical rationales indicative of either the ethical or technical incompetence of the writers and the failure of Boeing supervisory and audit personnel to identify or intervene against the fraudulent practice. (Indeed Boeing supervisory personnel may favor the more unethical employees who most effectively and willingly participate in concealing frauds or the inexperienced or incompetent employees who enable the provision of the lowest cost product because they are least able to detect failure to comply with engineering and contract requirements.) Likewise, Boeing personnel may be writing and invoking documents that give the appearance that engineering requirements have been relieved by customer contract modifications or approvals. Such modifications or approvals were either never given or Boeing's documents were intended to deceive Boeing's customers. Boeing is aided by the trust of their customers and the consequent minimal deployment of customer Inspectors, especially US Government Inspectors. Lacking staff, the customer cannot probe deeply into a welter of confusing, obscure documentation. Boeing's practices and the Government's failures in inspecting

and auditing Boeing result in the ability of Boeing to manufacture or procure hardware at lower cost while deceiving the Government about the quality and cost basis of the hardware sold to it. In particular, Boeing's documentation may establish a requirement that suggests a rationale for a manufacturing or inspection process that will reasonably cost some amount of money; nevertheless, Boeing will not actually execute or enforce the requirement sparing itself an expense or sparing a supplier an expense which savings is passed along, at least in part, to Boeing.

7. Relator, in the ordinary course of his assignments discovered that Boeing, and certain of its suppliers, from time to time did not manufacture conforming parts, that competent final inspections were not completed, and that despite this, Boeing or its suppliers issued Certificates of Conformance attesting to and guaranteeing the conformance of the items to engineering documentation and contracts. Boeing attempts to discourage both internal discussion of these practices and corrections of these practices; moreover, Boeing conceals this information from the United States government, including from DCMA which might be easily apprised of such information in the ordinary course of regularly scheduled review boards or while Boeing is arranging with DCMA for sale of goods. Further, although nonconforming parts might be discovered by Boeing Quality personnel; Engineers, or factory Mechanics, corrective action would typically be as limited as possible and further activity to discover whether problems were systematic were discouraged or stopped by Boeing management. Certainly management failed to act on proposals to expand the scope of "containment" so that it included such activities as investigating similar parts made by a supplier or parts that used processes by common subcontractors. Further, although Boeing is fastidious about creating schedule points for inspection in manufacturing planning sequences, Boeing does not create or maintain inspection "scripts" (including features to be inspected and method of inspection) for QA personnel, instead each

Inspector recreates an inspection scheme from scratch, nominally based on a reading of the blueprints. Accordingly, careful, methodical inspections are less likely and, consequently, escapes of nonconforming hardware are more likely.

8. Sales of nonconforming parts are also likely to have been made to the militaries and / or governments of foreign countries pursuant to the Foreign Military Sales ("FMS") program of the United States. Affected customers may include, Saudi Air Force, Australian Defense Force, Israeli Defense Force, Korean Air Force, and Italian Air Force. Commercial sales to Japanese contractors of the Japan Ministry of Defense were also affected. However, the Japanese customers for F-15C components are uniquely demanding of Boeing and subject hardware to rigorous inspection upon receipt. It is likely that Boeing has sold less undetected nonconforming hardware to those Japanese customers. This is a critical observation because essentially the same products are sold to the US Air Force and other customers and without disclosure of the nonconformances identified in Japan. This matter of Japanese inspection will be discussed further, below.

9. Relator, therefore, bring this suit on behalf of the United States of America and on his own behalf for violations of the United States Civil False Claims Act, 31 U.S.C. § 3729, *et seq.*

10. As Relator, I seek to recover, on behalf of the United States government and myself, damages, civil penalties and other relief from defendant arising from its presenting and/or causing to be presented false claims for payment to the United States government, and for making or causing to be made false statements and records to get false or fraudulent claims paid or approved under government contracts for military supplies, all in violation of the False Claims Act and / or the Major Frauds Act.

11. Relator seeks to explore whether damages can be claimed from Defendant Boeing for violations of the anti- retaliation provisions of the False Claims Act, 31 U.S.C. § 3730(h), or the

common law of any state realizing that Relator, in a severance agreement, may have waived the right to make any such claims against Boeing. (Relator also notes that, per an explanation of that severance agreement, Boeing has explicitly agreed that, despite a deceptively worded severance agreement, typical of Boeing's approach to contract documentation, as a matter of law Boeing cannot abridge my right to make whistleblower claims and bring suit. Even if Boeing was wrong about the law, our agreement assures that Boeing cannot use the agreement to impede this suit or any award that may result. Although Relator's exit agreement may have relieved Boeing of liability for (1) retaliation and for (2) creating a hostile work environment due to Relator's articulation to Boeing management of the problems described here, the Court should be aware that retaliation and hostility are likely to be inflicted on any Boeing employee who discovers and reports unfavorable information about the quality of Boeing products.)

II. JURISDICTION AND VENUE

12. This action arises under the False Claims Act, 31 U.S.C., § 3729, *et seq*.

13. This Court has jurisdiction pursuant to 31 U.S.C. § 3729(a) and 28 U.S.C. § 1331 (district courts have original jurisdiction of civil actions) and § 1345 (district courts have original jurisdiction for proceedings commenced by the US.) Venue is proper in this district under either 31 U.S.C. § 3732 (a) or 28 U.S.C. § 1391(b)(2) and (c)(2) because Boeing operates a major distribution center with facilities in Forest Park and Jonesboro in Clayton County, Georgia from which sale of nonconforming goods has occurred, especially sales to the United States Air Force for logistics support for the C-17 aircraft sustainment program. That program is administered from Robins Air Force Base in Houston County, GA (under, at the time many of the complaints enumerated here occurred, Contract No. FD2060-10-21091.) Sales of nonconforming goods were

made under various other contracts and those contracts were fulfilled from that distribution center in Clayton County, GA. Moreover, the US Government officials overseeing such sales were located at the Defense Contracts Management Agency in Smyrna in Cobb County, GA.

14. The specific facts and circumstances alleged in this Complaint have not been publicly disclosed in a criminal, civil, or administrative hearing nor in a Congressional, administrative, or government accounting office report, hearing, audit, investigation, or in the news media with one exception. (Partial disclosure concerning defective C-17 Main Landing Gear Lock Axle Washers (part no. 17P2C1022-1) was made by Realtor to DCMA (Smyrna, GA office) on or about 26 October 2016. Subsequently, Realtor provided additional technical information to a US Air Force civilian engineer attached to the C-17 program at Robins Air Force Base in Warner, GA. These disclosures were made because the items were potentially dangerous not merely technically nonconforming. Moreover, Boeing, despite knowledge of the danger, refused to withhold these parts from sale and refused to investigate other aircraft parts made by the same processes by the same supplier and failed to undertake containment, that is, per AS9100C section 8.2.3 c) Boeing failed to "determine if the process nonconformity is limited to a specific case or whether it could have affected other processes or products..."

This matter is presented in detail in exhibit set #1. Boeing had been presented with this same information, declined to disclose it, and created a new record to obscure the facts.

15. As the term "original source" is used in the False Claims Act, Relator is the original source of the information upon which this Complaint is based. Relator stresses that all information herein was obtained in the ordinary course of work assignments as an employee of the Boeing Company.

III. PARTIES

16. The real party in interest in this action is the United States of America.

17. Relator Mark Buchbinder is a resident of Suwanee, in Gwinnett County, Georgia. I was employed by the Boeing Company as a Quality Engineer from November 2004 to November 2016. Previously, I was employed by Rockwell International Corporation's Tactical Systems Division from 1982 to 1994, prior to its acquisition by Boeing in 1995. At Rockwell I worked as a Materials & Processes Engineer and as a Design Engineer and Analyst designing and evaluating missile warheads. Also at Rockwell, I participated in several Value Engineering change proposals. Subsequent to Rockwell, I was employed by (among others) Northrop Grumman Corporation and the Raytheon Company, both defense prime contractors. During most of my years employed by Boeing, I maintained registration with the American Society for Quality (ASQ) as a Certified Quality Engineer. Also, for three years, while a Boeing employee, I was registered with the ASQ as a Certified Quality Auditor (CQA.)

18. Defendant, the Boeing Company, is a Delaware corporation that conducts business throughout the United States and in much of the world, including Russia and China. However, its defense business, by location and sales, is essentially restricted to the United States of America and its allies. At all times material to the matters herein, Boeing was a supplier of goods and services, to include finished aircraft (including helicopters,) aircraft components, aircraft trainers / simulators, and weapons and guidance systems for weapons to various departments of the

United States, including, without limitation, the United States Air Force, the United States Army, and the United States Navy (of which the US Marine Corps is a department.)

IV. THEORIES OF THE MOTIVATIONS OF THE FRAUDS, METHODS OF THE FRAUDS, AND ASSUMPTIONS OF THE MILITARY CUSTOMER & ITS SUPPLIERS

19. To manufacture and sell military hardware, Boeing is required under various manufacturing and supply contracts awarded to Boeing by the Government, to develop a quality assurance system (QAS) (nowadays more often styled a "quality management system" [QMS]) which is subject to regular scrutiny and audit for effectiveness by the Defense Contract Management Agency (DCMA) of the United States Department of Defense (DoD.) Ongoing approval from DCMA is dependent, among other requirements, upon a showing by Boeing that, to a high degree of probability, all delivered hardware is fully conforming or, if not, has been reviewed for functionality and repaired as needed to provide acceptable safety, functionality, and economic value. In fairness, under some contracts (such as for the Joint Direct Attack Munition [JDAM],) the Government allows the sale of hardware although statistically a percentage of that hardware, below a contractual limit, will not perform to meet all requirements. (Note that this acceptance of a failure to perform is a willing trade, accepted by the Government in order to reap the benefits of lower prices, higher quantities, and timely, predictable deliveries.) Also, in the same practical manner, most complex systems, such as aircraft, contain nonconforming hardware that is known and properly identified, recorded, and dispositioned per contract. Records of the nonconformances and dispostions are made available to the customer or DCMA as the customers' representative. Finally, be it noted that hardware that is not fully conforming but still useful to a customer may be sold at a reduced

price or for other considerations such as extension of the normal warranty time or other assurance of repair or replacement in the event of premature failure. These situations are common enough to have well established practices, equitable to buyer and seller and fair to the taxpayer who ultimately pays and should benefit.

20. As part of its responsibility in maintaining a QMS, Boeing must assure the suitability, that is, the conformance to contract requirements of purchased goods. With the QMS as a contract requirement, and for practicality in risk reduction and economy, Boeing attempts to enforce, on most of its suppliers, although sometimes as mere theatre, subordinate QMS systems adequate to the suppliers' assignments. Usually a subordinate QMS will conform to SAE ISO 9001 or AS9100. The surveillance and enforcement of the external, subordinate QMSs and the evaluation of the subcontracting suppliers' deliverable hardware are conducted by Boeing through a department styled "Supplier Quality Engineering" (SQE.) (Relator notes in passing that Boeing has an "intern" program for college students. Boeing recruits engineering students for summer assignments in various engineering departments such as Mechanical Engineering or Computer Engineering. Boeing also recruits business students for internships in departments such as Accounting. Supplier Quality Engineering interns are recruited under the business rather than the engineering category, although, to be fair, Industrial Engineering is one of the preferred college major for this program, although the only engineering major. In view of Industrial Engineering as the sole engineering discipline enumerated for Supplier Quality Engineering, the court should ponder whether Boeing has greater concern for schedule and low prices rather than for the quality of the products purchased for incorporation into its airplanes and other products. Inept personnel, unable to predict or identify technical failure of products, are a common feature of business frauds and scandals where products do not meet customer or regulatory expectations. (In fairness, given

the limited pool of engineering students, most of whom may envision careers designing products, it may not be possible to recruit other than Industrial Engineers who have already abandoned ambitions of product design. Nevertheless this does not mitigate compliance with AS9100 and the recruitment for SQE interns should be contrasted with that for Quality Engineering interns where preferred college majors are Electrical, Manufacturing, Mechanical, Systems, and Aerospace [Engineering].)

21. Boeing SQEs and Buyers frequently protect incompetent suppliers from the consequence of the mutual incompetence (sometimes willful) of Boeing and the supplier. Some of the methods are:

a. enforcing requirements *as specified* rather than *as qualified*.

b. placing purchase contracts through "distributors" rather than with the original equipment manufacturer (OEM) so that discovered nonconformances will be formally attributed to the distributer rather than to the OEM and no demerit will accrue to the OEM in the BEST (Boeing Enterprise Supplier Tool) system that maintains a record of supplier performance. (This may not be a fraud on the Government but it creates a culture that normalizes behavior and practices that deviate from norms in the Quality Engineering profession, as exemplified by, say, the American Society for Quality.)

c. using bank credit cards (also styled "purchase cards") rather than the formal purchase order system in order to exclude such purchases from oversight in the BEST system.

d. intimidating Boeing Quality Inspectors (who do not report to the Supplier Quality Engineering department) to overlook and not record defects in hardware. (That is, some repair or rework may be accomplished but without required nonconformance records and engineering dispositions.)

e. encouraging Boeing Mechanics to make minor repairs or rework at production stations without creating a record of the suppliers' nonconformances. (In fairness, such requests would more often be declined: say what you might about Labor Unions, give them credit for empowering ethical behavior. Of course, all this will be impossible to prove without testimony from Mechanics or Foremen.)

f. creating documents that appear to demand corrective action from suppliers but that actually deflect attention from more serious, or systematic problems and create the appearance that the root cause problems are less consequential, less expensive to correct, and not systematic.

22. As part of its QMS responsibilities, either Boeing or, in some cases, suppliers, perform first article inspection of production parts. That is, using the same manufacturing facility and plans that are intended for routine, serial production of items deliverable to customers, Boeing or its suppliers conduct comprehensive inspection of parts, assemblies of parts, systems of assemblies, or complete finished goods (such as airplanes.) Subsequent items in serial production are typically subject to less comprehensive and stringent tests and inspections. (This is logical and appropriate as certain tests are to demonstrate achievement of the design requirements rather than to demonstrate mere achievement of the design's physical configuration. Subsequently, it may be assumed that achievement of the physical configuration will assure functionality.) Nevertheless, although less comprehensive and stringent, it is expected that routine tests and inspections are capable, with high probability, of revealing nonconformances. The processes used in serial production are also, typically, subject to monitoring to assure that the processes remain "capable" and are operating within the specified parameters used during production of first articles samples. (In fairness, process monitoring may be more economical and more effective than product testing. However, one of the critical arguments made by Relator is that Boeing has abused process

monitoring, dismissing evidence of process failures when it suits Boeing's economic advantage.)

23. Hardware having been qualified by first article inspection / qualification testing, Boeing must require that its own factories or its subcontracted parts suppliers produce subsequent parts using processes identical or functionally identical to the processes used to produce the items that were submitted for first article qualification. A critical misunderstanding exploited by Boeing and its suppliers is to mistake compliance with some reasonable interpretation of the engineering technical data package that might be made prior to qualification testing and the customer's grant of approval with compliance with contract requirements such that production of parts and assemblies is performed using the same production process that was qualified by producing a part or assembly that passed first article inspection and was deemed the approved configuration of the product. Boeing personnel regularly judge product as conforming if it conforms to any interpretation of a specification; they do not refer to the qualification testing. This is appropriate for deciding on the compliance of a supplier with a Boeing contract to produce a first article sample, but it is not appropriate for an item that is supposed to be produced to a qualified configuration per qualified processes. Boeing and supplier personnel do not seek to determine or understand the qualification process as the arbiter of conformance. Briefly, both the part and the process that produced said part become "qualified" by the first article qualification test (FAQT) process. A supplier must continue to use the same process that was qualified in order to assure that the part resulting from the process is qualified for sale to a customer. Innovation requires requalification or other form of customer approval. Confusion arises at Boeing and at its suppliers, in part because Boeing neglects to "tailor" specifications and blueprints to document the "as-built" qualified configuration and processes. That is, ambiguities that exist in the original engineering plans are not identified and eliminated as specific selections of materials and manufacturing processes are made during

production of first article units. Relator encountered this problem several times in the ordinary course of business in Boeing factories. Two examples occurred in production of AV-8 Harrier avionics:

(1) Manufacturing engineers wrote planning documents to use an inexpensive, "one-part" room temperature vulcanizing silicone rubber sealer, instead a more expensive, more labor intensive "two-part" polysulfide rubber sealer was required per drawing. I found and reported this error prior to production to Boeing Manufacturing managers. These managers arranged for production with the correct material. Unfortunately, as memory serves, as usual it was not possible to make a systematic correction to the manner of documentation that was the proximate cause of the error. (DoJ lawyers, during discovery, may find this problem memorialized in the Boeing nonconformance and corrective action system records, circa year 2010. However, because this was a planning error and hardware may not have been produced, the only records may be in emails, or revisions of manufacturing plans. See also IQDS 1620490 on an AV-8 avionics assembly that escaped without required sealer having been applied. Mistakes of omission will happen; in a manufacturing plant continuously producing identical products, "tribal knowledge" and ordinary memory will eventually eliminate such mistakes. Undertaking "build to blueprint" work without adequate management systems may simply be poor business judgement; this is not criminal. Nevertheless, this is a fair example of a longstanding inability, possibly amounting to willful refusal, to recognize and correct the root cause(s) of these kinds of mistakes.)

(2) Manufacturing engineers wrote planning documents that depended on an abrasive "star" washer to make electrical contact between a 75R870710-1001 Control Relay Panel Assembly chassis and ST5M1426 TwinAx connectors, instead of planning for a more labor intensive and expensive process to mask the contacting area of the chassis to prevent painting and then to treat the

bare area with a chromate conversion coating as required by design rules for the AV-8. (See Boeing IQDS corrective action document no. 1608511.) Although, unusually, engineering blueprints were changed, and the hardware built per the design intent, Boeing made no disclosure of prior delivery of nonconforming goods to the Government. Moreover, Boeing has mediocre safeguards against these violations and does not reward personnel who discover errors leading to higher Boeing costs. (That is, if an inferior, lower cost material or process will still produce a reasonably functional and serviceable part, Boeing will prefer that rather than having to make good on its contractual commitments. This argument is supported by the persistence of the pattern and on the evidence of Boeing's human resources incentive schemes which favor cost savings efforts over discovery of nonconformances and avoidance of their delivery.) To reiterate, ordinary human errors, either as engineering planning mistakes or as business management misjudgment, are not frauds. Aside from negligence resulting in injury (personal or economic) that may give rise to some tort, the consequences are punished by economic markets not courts. Nevertheless, the court should consider the above errors in the context of Boeing's contractual obligation to maintain a competent Quality Management System. The errors discovered by Realtor and described above likely arose from the complexity of the engineering documentation, especially Boeing's unusual practice at its St. Louis site of creating engineering parts lists that do not enumerate a specific and complete bill of materials for "as required / indefinite quantity" materials such as paints, adhesives, sealers, and solders. The errors of this type have long persisted, no root cause corrective action has ever been taken, and one might reasonably suspect that some faction of Boeing management realized that such errors could be exploited in Boeing's favor since the errors would frequently result in lower costs for production in Boeing factories or lower bids from less competent suppliers; moreover there is cost avoidance in not making corrective action. To summarize the matter of one theory of

fraud through allowing errors to go uncorrected: although random human errors by individuals may be inevitable, excusable, and not fraudulent, the failures to discern patterns of error and the failures to act to correct the root cause of the errors, given the commitments made to the Government by contract, and by puffery of Boeing's ethical practices and Quality Management System's effectiveness, amounts to fraud: the financial advantage is the motivation and the result - low cost, nonconforming products - was either contractually inexcusable management negligence or active intervention by management to execute a fraud. These practices had to have been known by a sentient, engaged management and, contrary to law, these general practices, and more specifically the consequent nonconforming products sold to the Government were not disclosed. (Relator believes that management "made excuses to itself" about these illegal actions by an argument that the Government would "overreact" to a disclosure about a suspect or actual nonconforming product, accordingly, because such overreaction would amount to excessive punishment and impose excessive costs and personal burdens, concealment was prudent and appropriate.)

24. The theory of fraud that arises from a deliberate misinterpretation of contracts continues with a specific example: as previously explained, Government production contracts, such as for C-17 logistics support, require that hardware offered for sale to customers correspond to qualified hardware. Boeing, if only for appearances, requires that its subcontracting (2nd tier) part suppliers, such as Dinucci Corp. or its 3rd tier suppliers of approved processes, such as Dixon Hard Chrome Corp., certify that their parts and services conform to engineering requirements and that production was made using processes identical to the processes used to produce hardware for first article qualification testing. To assure to the regulatory authorities and procurement agents of the Government that the products of Boeing's suppliers conform to requirements, Boeing by contracts with its suppliers, imposes quality assurance standards on the supplier as a

condition of sale. In particular, suppliers' manufacturing processes must maintain discipline to adhere to the same processes used for producing the parts presented for qualification acceptance at First Article Inspections and the supplier, using appropriate quality control procedures, must prevent nonconforming hardware from escaping to Boeing in the event of process failure. As such, Boeing purchase orders provide for first article inspection of parts with the intent that subsequent parts will be functionally identical based on the production of all parts using identical materials and processes. Any changes should require approval by the procuring agent, first article qualification, at least in part, although possibly only by engineering analysis, and, if cost savings are to result, submission of a Value Engineering Change Proposal (VECP) to the Government. (There are complex ideas and arguments here. I will attempt to clarify this in a few paragraphs below. If Defendant will not stipulate to my understanding, it will be instructive.)

25. Hardware, such as an aircraft part, has a physical configuration described by (1) its geometry, (2) its "materials of construction," and (3) its manufacturing processes. A full description of the materials of construction will include the processes by which the materials are fabricated not merely how the materials are geometrically arranged in space. Some of these materials and the finished parts may be subject to corrosion or other types of deterioration and, if so, materials and methods for deterioration prevention will also be included as part of the specified and qualified descriptions of the hardware.

26. The engineering design, from which prototype hardware is constructed, will invoke specifications which may have a variety of legitimate interpretations. It is the duty of the Design Authority (and this will be Defendant Boeing in the cases that have been described here,) to capture in the technical data package exactly what is physically embodied in the hardware so that alternative interpretations of the TDP are excluded in subsequent hardware embodiments of the

design. (One method of doing this is by creating "work instructions" which provide a detailed, step by step description of the materials used and the manufacturing processes used to alter the starting materials (which includes other fabricated parts and assemblies) into its desired configuration. This may include materials that are used in manufacturing but that are not intended as part of the finished hardware and are removed after processing. Examples are cutting lubricants, soldering or welding fluxes, or cleaners such as organic solvents and aqueous detergents.) However, several prototypes created using variant materials and manufacturing processes may be created and subject to qualification trials and this may provide the merit of "expanding the design envelope." For example, the Designer may know from experience that any of several metal alloys may be used depending on price and availability. In some cases, engineering analysis may be permitted as the method of expanding the design envelope. Generally, engineering analysis as a method of qualification will be permissible only after disclosure to the customer and customer approval.

27. Some features of a design, say, holes in sheet metal parts, may be achieved by any number of methods that are so reliable that no exact description of the process is necessary, or if there is high risk any of several exactly described methods will be acceptable, as long as the description is exact and the method tested or known to be dependable by prior experience. Changes to the methods may achieve further economies and customarily customers expect suppliers to be allowed to capture the entire savings. The most typical example of this is recognized under the name "learning curve economies." The essential criteria for determining if there has been a change to the manufacturing process is this: is it possible to distinguish hardware produced by one method from that produced by another method? So whether one drill bit is constructed from steel or another from tungsten carbide, or whether one cutting lubricant or another is used, holes drilled in, say, aluminum alloy sheet metal will be functionally identical and indistinguishable by any

practical test or reliability statistics accumulated over the life of the hardware.

28. Changes to the physical configuration of the hardware, either at the macroscopic or microscopic level (as exemplified in the exhibits by failure to heat cadmium steel parts for the full schedule supposed to eliminate hydrogen embrittlement) are another matter. In contrast to learning curve production economies, physical configuration changes changes cannot, without violating contracts, be implemented by a prime contractor's or subtier supplier's fiat. Configuration changes require requalification testing and / or customer approval of the test or the engineering analysis used in lieu of testing. The Government's Value Engineer Change Proposal contract clause, embedded in all procurement contracts above a certain dollar value ($100K typically) provides a contractual process for proposing and implementing such changes. Any change to the physical configuration of a product, or any change to the manufacturing process that may change the "form," "fit," or "function" [performance], if unapproved by the customer, even when the change is arguably an "improvement," is known in the industry and Federal Acquisition Regulations as "product substitution." (Boeing employees receive annual training describing product substitution and its illegality.) (In fairness, simple human error may result in the qualification of hardware that was erroneously documented. Say, for example, the blueprint required epoxy adhesive per a particular specification, and another adhesive was substituted due to a Mechanic's error during assembly of the qualification test hardware. The contractor and customer may agree to document the "as-built configuration" [that is, the configuration that was subject to qualification inspection and trials] and to build all subsequent hardware with the material used in qualification trials. Of course there may be a price adjustment to reflect the actual cost of the alternative material.)

V. Factual Allegations: Systematic Quality Failures and VECP Evasions.

29. Relator, in appended exhibits presents detailed examples about the following parts or categories of parts or failures of the Quality Management System:

Exhibit set #1: C-17 Main Landing Gear Lock Axle Washers, part no. 17P2C1022-1. This should be taken as representative of all C-17 parts specified as being manufactured from high tensile strength steel and electroplated with cadmium from acidic chemical solutions. Boeing and its suppliers have either discovered a novel, low cost process, that reduces hydrogen embrittlement without need for an extended high temperature bakeout beginning within a short time of the electroplating, or Boeing over specified the requirements of the parts and is satisfied to procure less costly parts more likely to be embrittled. Whatever the case, Boeing has fraudulently hidden the process change used to manufacture parts sold to the USAF and diverted the savings to its benefit.

Exhibit set #2: C-17 Main Landing Gear Shimmy Dampers, part nos. 17P2C1442-1 and others. This should be taken as representative of all C-17 parts manufactured to Boeing blueprints and prior to recent drawing changes designed for storage with preservation fluids not operating hydraulic fluids.

Exhibit set #3: Multiple F-15 parts are described that the Japanese customers rejected for quality defects. A high percentage of these parts are produced on the same production lines as parts supplied for other F-15 customers including the USAF.

Exhibit set #4: Forest Park, GA warehouse practices: Relator attempted to implement a scheme to identify suspect parts based on failures of similar parts, same manufacturer, common subcontractors (e.g. approved processor for specialty processes such as electroplating or heat treating, used by multiple manufacturers supplying parts to Boeing) or comparable technology or test methods. The exhibit will demonstrate a management technique for deflecting undesired improvements: transfer responsibility to another department that will not implement it. The

improvement was undesired because the Purchasing and Supplier Management Departments had incentives to minimize issues, especially quality nonconformances found with suppliers' goods.

Exhibit set #5: Incidents at Boeing's Training Systems & Services Division that although past the statute of limitations demonstrate the long standing laxity of the Boeing QMS. Note that the case of the nonconforming parts diverted back to the supplier resulted in reprimands for the Boeing employees, but no demerit for the supplier's rating. This is reasonably interpreted as a case of being punished for being caught. Another exhibit demonstrated that credit card purchase are also a method of avoiding demerits for poor performing suppliers. Finally, in a series of emails, there is an incredible account of Boeing promulgating specifications that indicated it was using soldering stations with controls for temperature and electrostatic discharge (ESD) control. These specifications demanded inspection and calibration of the soldering stations. These inspections and calibrations were never conducted at TS&S Division or at Boeing St. Louis generally. (An apparent exception was the training area for soldering technicians which had some supervision by DCMA.) When Relator uncovered Boeing's lack of compliance, Boeing got into compliance by rewriting the specifications to eliminate the requirement for inspections and calibration. DCMA may have been cozened into allowing the specification change, in which case all subsequent production was jeopardized, including product sold within the statute of limitations.

30. Boeing willfully refused to implement quality assurance procedures to assure full compliance with AS9100 Rev C requirement 8.5.2 section i): "[A documented procedure shall be established to define requirements for] ...i) determining if additional nonconforming products exists based on the causes of the nonconformities and taking further action when required." Here is a specific example discovered by Realtor in the course of my ordinary duties inspecting parts: Besides the examples in exhibit series #3 there are examples of C-17 Down Stop Slat Tracks

[Blocks], parts no. 17P6W7006-1 and 17P6W7046 exhibit series #4. These parts had problems with excessive surface roughness and / or lack of specified chromium plating. Relator prepared a presentation for DCMA of improved practices at the Boeing supervised Forest Park, GA warehouse whereby failures in one part number would trigger investigation of related part numbers. (Relator believes that the only situation where Boeing willingly and systematically investigated possible defects in related goods, that is goods with different part numbers but originating from a common design and supplier, was with "pan stock" items (such as rivets or threaded fasteners) in St. Louis aircraft production. The risk of a systematic defect in such parts, presented a considerable economic and safety risk. Good for them for doing the right thing; unfortunately their curiosity was very limited.) Relator was discouraged from implementing the practice described in the exhibit and Relator believes that his ability to discern such opportunities contributed to his layoff.

31. The exhibits described above are specific examples of a general problem of Boeing's doctrine. The general problem is found in any case of a customer reporting, or a Boeing Quality Inspector discovering, a nonconforming part delivered by a supplier. In the event, Boeing has actually found at least two failures: (1) the supplier's manufacturing process has produced a defect, and (2) the supplier's quality / inspection system has failed to discover the defect and thus allowed the "escape" of a nonconforming part. Now, such failures sometimes indicate that there are nonconforming products not only in other batches of the same particular part number but also in other types of parts (that is, parts with different part numbers than the particular one discovered nonconforming) because such parts have been produced using the same manufacturing processes or by the same supplier in the same facility. Nevertheless, Boeing will typically not react to that possibility, acting as if there is no reasonable possibility of a systematic problem affecting more than one part number. Admittedly, it would be uneconomic to overreact to improbable events and

this would divert resources that would reduce more probable risks of nonconforming product. However, it is as likely that Boeing knows that some of its engineering requirements are shams. Parts will be functional no matter if certain requirements are not met. Nevertheless Boeing can profit, that is have customers acquiesce to higher prices for more complex parts, with tighter tolerances, more expensive materials, and more expensive processing requirements if Boeing does not disclose that it turns a blind eye to defects and omissions with respect to such price driving requirements. And it may do this with little risk of discovery and the adverse consequences. Be clear, in general this suit does not allege safety or performance problems; it alleges essentially a financial fraud based on misrepresenting the fulfillment of design and quality requirements, established by contract, for which the Government pays in the belief that those requirements provide value to the Government and that they are being fulfilled in good faith. Boeing is not fulfilling all such requirements but makes representations via certificates of conformance that it has and collects payment as if all requirements have been fulfilled. More likely, Boeing has "overdesigned" to assure that products will pass first article testing and then ignores loss of manufacturing finesse or design feature that were probably not needed to begin. These savings should have been declared and shared with the Government via VECP submittals.

32. Boeing's quality assurance system is not the sole responsibility of the Quality Departments. That is, the performance of various duties necessary for compliance with AS9100 are delegated to functional departments such as Material Review Boards and personnel such as Liaison Engineers. So, for example, Liaison Engineers (delegates of the Design Engineering department) are responsible for determining if suspect nonconforming parts are acceptable for use on aircraft or how exactly such parts can be made fit-for-flight. Subject Matter Experts (for example, Material & Process Engineers) may also advise on causes of failure or

the suitability for use of suspect material. These are opportunities for abuse and examples of the abuse be inferred from the exhibits.

33. Even when Boeing's manufacturing quality inspectors identify nonconforming parts from suppliers, Boeing's Supplier Quality Engineers and Supplier Managers fail to require corrective action or in some cases falsified records to allow these parts to be sold to customers and failed to make disclosure, notify, and warn the United States. Boeing's disposition of nonconforming parts and failure to take appropriate corrective actions violated contract requirements and Boeing's own quality control policies, procedures, and systems. Boeing has not fully disclosed to the U.S. government, or to foreign governments who purchased Boeing aircraft or parts, that the subject aircraft or parts were manufactured in violation of contract requirements and design specifications.

34. By reason of quality assurance deficiencies, the various parts described in exhibits, and likely related parts never investigated, did not conform to contract requirements for conformance of hardware to requirements as established by qualification testing from which deviation is not permitted without some form of disclosure and / or customer permission as evidenced by truthful nonconformance documents, Material Review Board approvals or customer grants of deviations, waivers, or engineering change proposals. Thus, because of the violations and nonconformities described herein, the parts identified herein or in exhibits did not comply with all requirements of Boeing's contracts with the U.S. government. Thus, claims for payment submitted by Boeing to the U.S. government for these parts were false claims for payment.

35. These claims for payment submitted by Boeing to the U.S. government were knowingly false because Boeing actually knew, recklessly disregarded, deliberately ignored, and / or constructively falsified the fact(s) that the subject parts were made in violation of contract terms,

engineering specifications, approved configurations, and other documents creating contract requirements.

Defendants' Promotional Misrepresentations

36. Boeing fraudulently touted, misrepresented, and falsely promoted and disseminated to customers, the public, industry (including potential suppliers,) and others that it required its suppliers to adhere to AS 9100 Quality Management standards or other less stringent standards for products or services that represented less risk in the event of failure. Boeing then fraudulently touted, misrepresented, and falsely promoted and disseminated to the public, industry, and others that it and its suppliers, as a matter of fact and confirmed by Boeing's audit and general oversight, adhered to quality standards such as ISO 9001 and / or AS 9100. In particular, Boeing made representation to DCMA that exceptions to such compliance were matters of random human error, random failure, improbable circumstance, or reasons other than Boeing's systemic and systematic practice to exploit the trust of Boeing's customers and provide financial advantage to Boeing.

Seeking of Payment Based on False Claims

37. The Material Inspection and Receiving Report (MIRR), Form DD 250, is an invoice-supporting document that the Department of Defense requires on contracts for supplies and services. Defense Federal Acquisition Regulations (DFAR) Clause 252.246-7000 (as prescribed by DFAR Subpart 246.370) requires Department of Defense contractors to submit this form under contracts that have separate and distinct deliverables. The DD 250 documents inspection and acceptance, receipt, and delivery/shipment dates. Defendant Boeing was required to prepare and submit certifications of conformance with the contract terms, including but not

limited to the DD 250 forms, for the delivery of parts to the payment office or other government personnel, whether submitted in hard-copy or by electronic means. In accordance with the contract requirements and relevant DFAR regulations, Defendant Boeing submitted DD 250s, as well as any other documentation regarding compliance, to the U.S. government through submission to the Defense Contract Management Agency (DCMA) and/or the Department of Defense contracting activity personnel responsible for providing their acceptance that the deliveries of distinct deliverables, "conform to contract, except as noted herein or on supporting documents." It is Relator's belief that Defendant Boeing failed to fully and completely identify, warn, and disclose any nonconformities on the DD 250 forms or supporting and other disclosure documents and thereby knowingly made or used, or caused to be made or used, a false record or statement that Defendants knowingly presented, or caused to be presented, to an officer or employee of the United States Government or a member of the Armed Forces of the United States for payment or approval of a false or fraudulent claim. By submitting certifications of conformity along with requests for payment, when parts were nonconforming, and known to be nonconforming or if operating a proper QMS per contracts should have been known to be nonconforming, Boeing further provided false implied certifications of compliance with applicable contract terms, specifications, statutes, rules and etc. These false statements and claims for payment by The Boeing Company to the U.S. government had the effect of concealing the fact that various parts were nonconforming and / or that VECP clauses of applicable contracts had been evaded by Boeing.

38. Boeing submitted false claims and/or false documents to the United States

government in connection with each of the parts described in this complaint and disclosed to the DoJ.

39. Boeing knew or was recklessly indifferent to the facts of such nonconformance at or before the time it submitted the false claims.

40. Boeing violated the False Claims Act, 31 U.S.C. § 3729(a), with respect to each such part described herein or in disclosure made to the DoJ and each such document demanding payment for such parts.

41. The United States government was damaged as a result, as alleged herein.

IX. PRAYER FOR RELIEF

42. WHEREFORE, Relator, on behalf of the United States and on my own behalf, demands judgment against defendant as follows:

A. That the Court enter judgment against the defendant in an amount equal to three times the amount of damages the United States government sustained because of their actions, plus a civil penalty of the maximum allowed by law for each false claim made within the statute of limitations of this suit, together with the costs of this action, including the cost to the United States government for its expenses related to this action.

B. That Relator be paid court fees and costs, plus reasonable compensation for the time (more than one thousand hours) required to prepare this claim and the exhibits.

C. That in the event that the United States intervenes in this action, Relator be awarded an amount for bringing this action of twenty-five percent (25%) of the proceeds of the action or settlement of the claims.

D. In the event the United States DoJ does not intervene or the DoD finds no violation of contract, the suit is withdrawn. However if the DoJ or DoD does find violation of contract as evidenced by demands for corrective action by Boeing, then Realtor reserves the right to refile and to pursue this case with legal representation and to demand the full compensation allowed. Realtor will pursue a theory that the Government benefitted and that the corrective action undertaken by Boeing amounted to compensation to the Government to correct the frauds revealed here, including frauds that were discovered under the theory of the USAF Inspector General in paragraph 2 above.

E. That the United States and Relator receive all relief both at law and in equity to which they may reasonably be entitled.

REQUEST FOR TRIAL AND TO SPEAK TO THE COURT

43. Comes now the Plaintiff-Relator, Mark Buchbinder, and acting on behalf of the United States of America and on his own behalf, hereby requests the intervention of the Court and the Department of Justice and subsequently a trial on all issues of fact herein. However this request may be modified as the Department of Justice determines.

44. Relator believes that the facts presented here would support claims of fraud and detrimental reliance against Defendant Boeing by certain suppliers to Boeing, would be suppliers to Boeing, and Boeing's manufacturing employees (such as, but not limited to, Manufacturing Engineers, Quality Engineers, Quality Inspectors, Sheet Metal Mechanics, and Production Planners) individually and collectively. Having no private lawyer to pursue class actions against Defendant Boeing, I leave this matter to the Court's discretion. However prior to the court accepting any settlement negotiated between the Government and defendant I request to offer an opinion as to the effectiveness and equity of the proposed settlement and whether it is likely to provide relief for the parties enumerated in this paragraph. In particular, Realtor discourages activity *in camera* or secret settlements; in the event, other injured parties will be less likely to discover their injury and their recovery will be impeded.

Respectfully submitted,

14 Nov '19

s/ Mark Buchbinder

Index of Indexes

Folder or File Name	Description
Index of Indexes	This list.
Exhibit Set #1	C-17 Main Landing Gear Lock Axle Washer
Exhibit Set #2	C-17 Landing Gear Hydraulic Fluid & Preservation
Exhibit Set #3	Japan F-15 Customer Inspections
Exhibit Set #4	Forest Park (GA) Suspect Parts Initiative
Exhibit Set #5	Training Systems & Services: harassment email; soldering issues hidden

Exhibit Set #1
C-17 Main Landing Gear Lock Axle Washer

Folder or File Name	Description	Discovery Needed?
Index of Papers for MLG L-A Washer Case_f.docx	This list.	
History and Timeline of the MLG Lock Washer Axles.docx	Overview narrative of the case; personal account	
NCR635499B_Presentation_WithM&Pviews_compact.pptx	Attachment to NCR with rejected Quality Engineering views	
Email About Waiver.docx	Account of how nonconforming parts got accepted	
W18832R1_FINAL_Dinucci_17P2C1022-1.pdf	Waiver accepting suspect parts	
Emails Between Whitten and Buchbinder.docx	Account of how M&P Engineer dismissed objections	
IntroductoryStatementAboutEthics.docx	Appeal to Boeing Ethics Department; copy to Quality bosses	
EmailToEthics.docx	Cover letter to Boeing Ethics	
FirstEmailExchanges.docx	Emails amongst C-17 Engineers first learning about problem	
NCR642367B.html	NCR that was accepted.	
Request for Drawing Change DPS9_28.docx	Rejected request to modify poor specification.	
NCR635499B.html	Nonconformance record (NCR) that was rejected	
DCMA F272 Swivel Bolt Failure - Short MPE White Paper.pptx	Account of a hydrogen embrittlement failure. Attributed to electroplating rate / current. No consideration of bake conditions.	
NCR642367B_withImages	Has oven temperature records of nonconformance record	
DouglasProcessSpecification_DPS9.28_pg16_excerpt.docx	Requirement to heat and use red dot indicators.	
Copy of NCR635499B_001_992.xlsx	List of all Lock Washer Axle serial numbers and red dot condition	
TA-PD-027.doc	Boeing procedure for waivering / accepting nonconforming parts	

Exhibit Set #2
C-17 Landing Gear Hydraulic Fluid & Preservation

Folder or File Name	Description	Discovery Needed?
_a_Index of Papers for Hydraulic Fluid & Preservation.docx	This list.	
_b_History Hydraulic Preservation.docx	Overview narrative of the case; personal account	
_c_ExecutiveSummaryHydraulicAssmCA1750225_RevC.pptx	Overview of technical and business issues in PowerPoint	
NCR625269B (hard copy only)	Early example of nonconformances in 17P2C1450-507 Assm	
_d_NCR659512B	for 17P2C1450-507 revised NCR	
_e_17P2C1450-507HydraulicActuators_compressedRevA.pptx	Pictures of typical packaging and plug	
_f_REQUEST NUMBER 292509 Form Change	Request for change to label / tag made by Relator	
_g_Image176764072_Label.jpeg	Photo of a tag prior to changes	
_h_BestArgumentForWorkingFluidUse.docx.	Written per compulsion by Boeing managers	
_i_Email About Hydraulic Fluid Test Specs.docx	Account of how nonconforming parts got accepted	
_J_ContractClarificationRequest.docx	Appeal to contracts to clarify purchase order to subcontractor	yes
_k_JoseCobianEmail_1807023.docx	Email directing closer of Relator's corrective action	
_L_IQDS_CA_1750225asofFeb2016	Record of Relator's corrective action	
_m_IQDS_1807023_PrintCompleteHistory	Record of C-17 Program's corrective action	

Exhibit Set #3
Japan F-15

Folder or File Name	Description	Discovery Needed?
Index of Papers for Japan F-15.docx	This list.	
IQDS_PA_1668825.pdf	Preventive action document in Boeing IQDS records.	
Preventive Action 1668825RevG.pptx	Explanation of risk arising from neglect of engineering documents.	
NCR635499B	Blank; system generated	none

Exhibit Set #4
Forest Park, GA: Suspect Parts Initiative

Folder or File Name	Description	Discovery Needed?
Index of Papers for Forest Park Suspect Parts.docx	This list.	
Improvement Opportunity (Implemented).pptx	Account of successes finding nonconforming parts based on similarity of parts to other nonconforming parts.	Yes, documents listed in file.
NCR606177B	Nonconformance report on 17P6W7006-1 Slat Track Down Stop	Yes
NCR597043B	Nonconformance report on 17P6W7046-1 Slat Track Down Stop	Yes

Exhibit Set #5
Incidents at Training Systems & Services Division, St. Louis

Folder or File Name	Description	Discovery Needed?
Index of Papers for Incidents at TSS.docx	This list.	
IQDS 1620964	Nonconforming parts diverted without NCR (hardcopy only)	
Email concerning soldering stations	(Hardcopy only)	
TSS_CAPA, February2010(SETQEJan10data).ppt	See slide 3 for information on credit card abuse	

Non Conformance Reference Only Boeing Proprietary

BOEING

Non Conformance Number : NCR625269B ☐ Priority
Log Number : - ☐ Critical/REMIS
Created by : ga710c
Employee No (stamp) : 1363498
Create Date : 09/22/2014 07:26
Work Order : BSQ
Model : C17
Program Code : BSQ
Work Group : ATLANTA
Contract :
Total Quantity Received : 4
Total Quantity Accepted : 0
Total Quantity Withheld : 4
Primary Charge No : WITHOLD
Secondary Charge No :
Seq. # / ASA # : 00-0000B0504
Orig. Report No. : NCR623709B
System No. :
CLIN :
Type Inspection :

Part/Tool No : 17P2C1450-507
Part Name : ACTUATOR ASSM
Part Serial : 0045, 0049, 0051, 0059
Originating Shop :
Shop Order/Job No. Ref. :
Prod Unit No : 000
Airplane Serial No./Eff. : 00-0000
Supplier Code : 2A7972
Supplier Name : ARNOLD ENGINEERING CO. INC.
Date Received :
Receiving Notice No :
Purchase Order No :
Material Mgmt. Area :
Material Review Crib :
Access No. :
Area No. :
Side: ☐ L ☐ R
Oper Time:
Fed.Stock:
Buyer :

Station/X :
Body Line/Y :
Water Line/Z :
ACC :
Position :
Zone/Section :
Supercedes NCR :
Superceded by :
Reference NCR :
☐ MRB Required
☐ Book Form Type
☐ Stock Check Required
Stock Check Number :
Time and Material :
349 Form Required :
Line Item No. :
ATA/WTC :
SRD :
NCR Status : OPEN
Close Date :

Disc Nbr	Rev	Defect Code	Defect Quantity	Cause Code	E-M Compatible	Stress Required	Function Test Required	Recurring / Non-Recurring	Recurring Count	C/A Number	Discrepancy Status
001		M13	4	3.7	No	No	No	No			OPEN
002		Q15	4	1.7	No		No	No			OPEN
003		Q01	4	3.2	No		No	No			OPEN
004		M01	4	3.2	No		No	No			OPEN

Group Name	User Id	Act #	Date In Queue	Actual Start	Finish Date	Note Only	App Only	App/ Rej	Comments	Send Email
QA_INSPE	ga710c	0	09/22/2014 07:20	09/22/2014 07:20	09/22/2014 09:38					

Non Conformance **Reference Only** **Boeing Proprietary** Non Conformance Number : **NCR625269B**

Group Name	User Id	Act #	Date In Queue	Actual Start	Finish Date	Note Only	App Only	App/ Rej	Comments	Send Email
QA_INSPE	ga710c		09/25/2014 08:20	09/25/2014 08:20	09/25/2014 08:45					

Discrepancy Number : 001

Discrepancy Status : **OPEN**
Defect Code : **M13**
Electro-Magnetic Compatibility : **No**
Defect Quantity : **4**
Cause Code : **3.7**
L D D : **No**
Part/Tool Number : **17P2C1450-507**
Functional Test Required : **No**
Part Name : **ACTUATOR ASSM**
Recurring : **No** Count :
Procurement Code :
Date : **09/22/2014**
Corrective : **No** Action:
Supercedes Discrepancy :
U/M : **EA**
Other Coord :
Superceded By :
Created By Group : **QA_INSPECT**
Comp Pos:
IMRR Type :
Graphics Exist : **No**
When Disc.:
How Mal:
Safety of Flight:
Work Unit Code:
Units:

Discrepancy Detail

IS: Hydraulic fluid has spilled from assembly because disposable plug was dislodged from reservoir attach hole. Fluid is on outside of assembly.

SHOULD BE: Minimal or no fluid on assembly. Fill hole plugged securely.

Note: supplier uses tapered plug (material EPDM) product of Rubber Dynamics, Inc., part number TPE-K65. Boeing TDP does not have a requirement for such plugs or describe a method of securing the plug in place. Plug will swell when wetted with hydraulic fluid or preservative fluid.
Note: per next discrepancy specification calls for preservative fluid, not hydraulic fluid as supplied.

PO 532994 and / or 837407
Arnold Engineering Company, Inc.
CAGE 9J523

Disposition Rollup

Disp #	Disp. Code	Type	Status	Shop Order	Parts Reqd.	Graphics	Created By Group	Created By User Id	Create Date	Step 1 of 1
001	4	FINAL	OPEN			No	QA_INSPECT	ga710c	09/25/2014 08:21	

Disposition Rollup

Buyoff Group	Act Grp	Buyoff User	Buyoff Date	Status	Reason	Buyoff Comments	Operation ID
QA_INSPECT							

Discrepancy 001 Continued ...

Non Conformance **Reference Only** **Boeing Proprietary** Non Conformance Number : **NCR625269B**

Group Name	User Id	Act #	Date In Queue	Actual Start	Finish Date	Note Only	App Only	App/ Rej	Comments	Send Email
QA_INSPE	ga710c		09/22/2014 07:21	09/22/2014 07:28	09/25/2014 08:41				to be routed - Eng Dispo required.	
SPR ADMIN	system		09/25/2014 08:41	09/25/2014 08:41	09/25/2014 08:41	X			Notification occured	X
ENGR_MR	c307129		09/25/2014 08:41	09/25/2014 14:22						
C17 SQA LB										
SPR ADMIN						X				X
QA_INSPE										

Discrepancy Number : 002

Discrepancy Status : **OPEN**
Defect Quantity : **4**
Part/Tool Number : **17P2C1450-507**
Part Name : **ACTUATOR ASSM**
Procurement Code :

Defect Code : **Q15**
Cause Code : **1.7**
Date : **09/22/2014**
U/M : **EA**
Comp Pos:
How Mal:
Units:

Electro-Magnetic Compatibility : **No**
L D D : **No**
Functional Test Required : **No**
Recurring : **No** Count :
Corrective : **No** Action:
Other Coord :
IMRR Type :
Safety of Flight:

Supercedes Discrepancy :
Superceded By :
Graphics Exist : **No**
Created By Group : **QA_INSPECT**
When Disc.:
Work Unit Code:

Discrepancy Detail

IS: Filled with MIL-PRF-83282 (successor to MIL-H-83282) hydraulic fluid.

SHOULD BE: Filled with MIL-H-46170 (or successor MIL-PRF-46170) preservative fluid per DPS3.334.

Group Name	User Id	Act #	Date In Queue	Actual Start	Finish Date	Note Only	App Only	App/ Rej	Comments	Send Email
QA_INSPE	ga710c	0	09/22/2014 08:27	09/22/2014 08:27	09/25/2014 08:43				Eng dispo required.	
SPR ADMIN	system		09/25/2014 08:43	09/25/2014 08:43	09/25/2014 08:43	X			Notification occured	X
ENGR_MR	c307129		09/25/2014 08:43	09/25/2014 14:22						

Discrepancy 002 Continued ...

Non Conformance **Reference Only** **Boeing Proprietary** Non Conformance Number : **NCR625269B**

Group Name	User Id	Act #	Date In Queue	Actual Start	Finish Date	Note Only	App Only	App/ Rej	Comments	Send Email
C17 SQA LB										
SPR ADMIN						X				X
QA_INSPE										

Discrepancy Number : 003

Discrepancy Status : **OPEN**
Defect Quantity : **4**
Part/Tool Number : **17P2C1450-507**
Part Name : **ACTUATOR ASSM**
Procurement Code :
Supercedes Discrepancy :
Superceded By :
Graphics Exist : **No**
Created By Group : **QA_INSPECT**
When Disc.:
Work Unit Code:

Defect Code : **Q01**
Cause Code : **3.2**
Date : **09/22/2014**
U/M : **EA**
Comp Pos:
How Mal:
Units:

Electro-Magnetic Compatibility : **No**
L D D : **No**
Functional Test Required : **No**
Recurring : **No** Count :
Corrective : **No** Action:
Other Coord :
IMRR Type :
Safety of Flight:

Discrepancy Detail

IS: Paper and bubble wrap bags with adhesive closure.

SHOULD BE: As specified in DPS 3.344 Section 5.5 Packaging.

Note: Selection depends on planned time in storage and should be specified to Boeing's supplier in purchase order.

Group Name	User Id	Act #	Date In Queue	Actual Start	Finish Date	Note Only	App Only	App/ Rej	Comments	Send Email
QA_INSPE	ga710c	0	09/22/2014 08:41	09/22/2014 08:41	09/25/2014 08:45				Eng dispo required.	
SPR ADMIN	system		09/25/2014 08:45	09/25/2014 08:45	09/25/2014 08:45	X			Notification occured	X
ENGR_MR	c307129		09/25/2014 08:45	09/25/2014 14:23						
C17 SQA LB										
SPR ADMIN						X				X

Discrepancy 003 Continued ...

Non Conformance **Reference Only** **Boeing Proprietary** Non Conformance Number : **NCR625269B**

Group Name	User Id	Act #	Date In Queue	Actual Start	Finish Date	Note Only	App Only	App/ Rej	Comments	Send Email
QA_INSPE										

Discrepancy Number : 004

Discrepancy Status : **OPEN**
Defect Quantity : **4**
Part/Tool Number : **17P2C1450-507**
Part Name : **ACTUATOR ASSM**
Procurement Code :
Supercedes Discrepancy :
Superceded By :
Graphics Exist : **No**
Created By Group : **QA_INSPECT**
When Disc.:
Work Unit Code:

Defect Code : **M01**
Cause Code : **3.2**
Date : **09/22/2014**
U/M : **EA**
Comp Pos:
How Mal:
Units:

Electro-Magnetic Compatibility : **No**
L D D : **No**
Functional Test Required : **No**
Recurring : **No** Count :
Corrective : **No** Action:
Other Coord :
IMRR Type :
Safety of Flight:

Discrepancy Detail

IS: Form 2-53A or successor (DAC2-53A) not provided with assembly.

SHOULD BE: Per DPS 3.334 Rev L section 5.7.3.2 record of storage is to accompany assembly.

IS: No tag provided.

SHOULD BE: Per DPS 3.334 Rev L section 5.4.4.3 "Each assembly will have a detachable tag." The intent of the tag is to warn that the assembly is filled with preservative fluid that must be drained and the assembly should be refilled with hydraulic fluid prior to installation. Since the supplier has already filled with hydraulic fluid, this omission of the tag is consistent with the configuration.

Group Name	User Id	Act #	Date In Queue	Actual Start	Finish Date	Note Only	App Only	App/ Rej	Comments	Send Email
QA_INSPE	ga710c	0	09/22/2014 09:00	09/22/2014 09:00	09/22/2014 09:38				This NCR is successor to NCR623709B. The first tag did not adequately enumerate all the nonconforming conditions.	
SPR ADMIN	system		09/22/2014 09:38	09/22/2014 09:38	09/22/2014 09:38	X			Notification occured	X
ENGR_MR	c307129		09/22/2014 09:38	09/25/2014 14:23						
C17 SQA LB										
SPR ADMIN						X				X

Discrepancy 004 Continued ...

Non Conformance **Reference Only** **Boeing Proprietary** Non Conformance Number : **NCR625269B**

Group Name	User Id	Act #	Date In Queue	Actual Start	Finish Date	Note Only	App Only	App/ Rej	Comments	Send Email
QA_INSPE										

Buchbinder, Mark D

From: Ham, Wendy A
Sent: Monday, April 19, 2010 9:50 AM
To: Buchbinder, Mark D
Subject: FW: Solder Station Temperatures

FYI

Wendy Ham
Metrology And Test Equipment Services (MATES)
SOURCING MANAGEMENT
Ph. 314-233-3586

St. Louis MATES Hotline 4-4243 (4-GAGE)
http://gpprod4.web.boeing.com/mtes/

From: Stroot, Dan C
Sent: Sunday, April 18, 2010 11:45 AM
To: Ham, Wendy A
Cc: Norwood, David M; Mingo, Jean L
Subject: RE: Solder Station Temperatures

Wendy,

The training department purchased it based on our needs in solder training. We are still currently using it in training. I would suggest that the Test Labs purchase another one for use in other organizations.

Thanks

Dan C. Stroot
Manager - LTD Manufacturing & Quality
Learning, Training and Development
Boeing - Central Region / South East Region
(St. Louis, Wichita, Heath, Huntsville and Macon)
Phone (314) 777-3741
Cell Phone (314) 920-5439
Fax (314) 777-1728
MC S101-1005

From: Mingo, Jean L
Sent: Friday, April 16, 2010 1:07 PM
To: Stroot, Dan C; Norwood, David M; Ham, Wendy A
Subject: RE: Solder Station Temperatures

This is about the Weller Tester WA/2000. Jean Mingo may have test equipment that is surplus to her requirements in Training. That equipment could be redeployed to the Cal Lab and then made available to TSS as needed. We also need to determine a test schedule since this is not obvious from the Boeing specs. Please speak with Jean about the equipment and about her thoughts on specification compliance. Dan Stroot is my manager who would decide about the Weller Tester. Please let Wendy know what you want to do about the tester. Are department paid for it years ago.
Jean

From: Stroot, Dan C
Sent: Friday, April 16, 2010 12:31 PM
To: Mingo, Jean L; Norwood, David M
Subject: RE: Solder Station Temperatures

Any action for me??

Thanks

Dan C. Stroot
Manager - LTD Manufacturing & Quality
Learning, Training and Development
Boeing - Central Region / South East Region
(St. Louis, Wichita, Heath, Huntsville and Macon)
Phone (314) 777-3741
Cell Phone (314) 920-5439
Fax (314) 777-1728
MC S101-1005

From: Mingo, Jean L
Sent: Thursday, April 15, 2010 10:23 AM
To: Stroot, Dan C; Norwood, David M
Subject: FW: Solder Station Temperatures

From: Ham, Wendy A
Sent: Thursday, April 15, 2010 7:58 AM
To: Mingo, Jean L
Cc: Buchbinder, Mark D
Subject: RE: Solder Station Temperatures

Jean,

Please provide the asset numbers or the manufacture and model number of the assets described below. Thanks.

Wendy Ham
Metrology And Test Equipment Services (MATES)
SOURCING MANAGEMENT
Ph. 314-233-3586

St. Louis MATES Hotline 4-4243 (4-GAGE)
http://gpprod4.web.boeing.com/mtes/

From: Buchbinder, Mark D
Sent: Wednesday, April 14, 2010 10:30 AM
To: Ham, Wendy A
Cc: Rieders, Lawrence J; Rees, Daniel A; Mingo, Jean L; Bailey, Fred W
Subject: RE: Solder Station Temperatures

Hi Wendy,

After discussion with Dan Rees and Jean Mingo, I think TSS should bring in equipment to test our soldering stations for compliance

with temperature gage and ESD / solder tip voltage requirements.

Jean Mingo may have test equipment that is surplus to her requirements in Training. That equipment could be redeployed to the Cal Lab and then made available to TSS as needed. We also need to determine a test schedule since this is not obvious from the Boeing specs. Please speak with Jean about the equipment and about her thoughts on specification compliance.

Please, give me a call and let's work out the details.

Many thanks,

Mark
(Buchbinder,
Hardware Quality Engineering
TSS - St. Louis
777-7097)

From: Ham, Wendy A
Sent: Thursday, March 25, 2010 12:40 PM
To: Buchbinder, Mark D
Subject: RE: Solder Station Temperatures

Mark,

Please know that there are other temperature options if you want more testing capabilities at a lower price. However the full boat testing should be done periodically using the multifunction tester. Please advise.

Wendy Ham
Metrology And Test Equipment Services (MATES)
SOURCING MANAGEMENT
Ph. 314-233-3586

St. Louis MATES Hotline 4-4243 (4-GAGE)
http://gpprod4.web.boeing.com/mtes/

From: Buchbinder, Mark D
Sent: Thursday, March 25, 2010 12:31 PM
To: Ham, Wendy A
Subject: RE: Solder Station Temperatures

Wendy,

This is a good stuff.

I am going to talk to my management and someone will call to discuss this with you.

Many thanks,

Mark

From: Ham, Wendy A
Sent: Thursday, March 25, 2010 12:20 PM
To: Buchbinder, Mark D
Subject: RE: Solder Station Temperatures

Mark,

Barring any ESD requirements for your assembly process, my recommendation is to change the QPIS 72-096-014 source document to PS 22800 and establish a reasonable testing interval for temperature, ground resistance and ground potential in the requirements

section of the document. Since temperature is most critical to your process this test could be done daily (idle and demand). Then the ground resistance test (maybe monthly) and ground potential test (either annually or semi-annually) can be done less often but will fulfill the MIL-STD-2000 and PS 17202 requirements. Please note if any ESD sensitive components are soldered in your area then PS 22802 must be complied with and the more rigid testing requirements as defined on the current version of QPIS 72-096-014 must be performed.

I checked out the 2 MIL-STD documents, MIL- STD 1686 is requirements for ESD protection and MIL-STD-2000 is for High Reliable Soldering. The MIL- STD 1686 establishes proper component handling for ESD protection, no requirements for testing soldering irons. The MIL-STD-2000 echoes the requirements of PS 17202 where it calls out a temperature, resistance and peak to peak specification but does not require a log or defines a testing interval. So with that, I think we are solid if we modify the QPIS 72-096-014 (although this is not called out in the PS 22800 or PS 22802) which would demonstrate compliance to all of the requirements identified.

So regarding your request for test equipment to test your soldering stations I would recommend a test set that performs temperature, ground resistance and ground potential (peak to peak) tests at the accuracy that you require. Jim Klein indicated that we had a AMS-601 in storage, however it does not measure tip temperature. So, since we have to buy something, I think a single test set would be better in general. PS 17202 and PS 22802 calls out various testers that will test all of the requirements but those testers are not available for procurement or are not supported. There are two testers that are available that look pretty good, refer to attached specs. The Wahl ST2200F-110 is $1176 and the Weller WA2000 is $780. Figure you will need a few to cover your 20 stations. Are the stations close enough to share the testers? Let me know what you think.

Wendy Ham
Metrology And Test Equipment Services (MATES)
SOURCING MANAGEMENT
Ph. 314-233-3586

St. Louis MATES Hotline 4-4243 (4-GAGE)
http://gpprod4.web.boeing.com/mtes/

From: Buchbinder, Mark D
Sent: Wednesday, March 24, 2010 2:25 PM
To: Ham, Wendy A
Subject: RE: Solder Station Temperatures

Hi Wendy,

Thank you for looking closely at this.

My immediate problem is building flight hardware that calls for PS 17179. That spec (at 5.2.3) invokes PS22800. So I would think that at least once I would test my process hardware to determine compliance unless I thought the manufacturer's certification was good indefinitely. But leave that aside for now. I don't want to "specification lawyer" this issue righ now. At some point we might have to decide if the current process specs need revision because I am thinking that nobody thought through the compliance problems you describe.

What I do want is untoasted hardware. Testing soldering irons is risk mitigation. If you have equipment to test the soldering iron temperatures, if the test costs were "reasonable," regardless of any contract requirements, I would recommend testing. If you don't have equipment, then I will discuss it with TSS management and we can decide if we want to buy test equipment on our own account.

If you can help, please let me know.

Thank you,

Mark

From: Ham, Wendy A
Sent: Wednesday, March 24, 2010 12:59 PM
To: Buchbinder, Mark D
Subject: RE: Solder Station Temperatures

Mark

I see a bit of a conflict of requirements between PS 22800 and PS22802. I am not sure which PS is being used for your build process,

please clarify. Note that contractual requirements must apply above and beyond the PS provided.

PS 17202 calls out a temperature, resistance and peak to peak specification. However, it does not require a log or defines a testing interval. This PS does reference MIL- STD 1686 and MIL-STD-2000 (high reliability soldering) and also calls out the PS22800 and PS22802. So we are in a round robin here.

PS 22800 only calls out a temperature spec (para. 5.3.2) but does not require a log or defines a testing interval. It does state that irons must comply with PS 17202. So I wonder how you would demonstrated compliance. Is this where the QPIS 72-096-014 fits in to the process?

PS 22802 references PS 17202, MIL- STD 1686 and MIL-STD-2000 (high reliability soldering). In paragraphs 5.3.5.3 and 5.3.5.4 it calls out temperature specs but does not address frequency. However paragraph 5.3.5.5 for ESD device soldering prescribes the daily, weekly and semi-annual tests identified on the QPIS 72-096-014. Please note that PS 22802 calls out QPIS -00-096-795 as the log sheet but I can not locate this document.

Please advise.

Wendy Ham
Metrology And Test Equipment Services (MATES)
SOURCING MANAGEMENT
Ph. 314-233-3586

St. Louis MATES Hotline 4-4243 (4-GAGE)
http://gpprod4.web.boeing.com/mtes/

From: Klein, James D
Sent: Wednesday, March 24, 2010 7:18 AM
To: Ham, Wendy A
Cc: Buchbinder, Mark D; Scott, TW; Morris-Jr, Charles F
Subject: FW: Solder Station Temperatures

Wendy,

Here is the email string on the soldering iron issue that we discussed. Please coordinate with Mark on a workable solution. If there is any additional technical advice that you need me to provide let me know.

Thanks,
Jim

From: Buchbinder, Mark D
Sent: Tuesday, March 23, 2010 3:16 PM
To: Klein, James D
Subject: RE: Solder Station Temperatures

Jim,

As far as I know we do nothing and keep no logs of the nothing we are not doing. So to speak.

ESD is not a huge issue as mostly we are working with electromechanical and passive devices - not much chance of damage due to ESD or voltage excursions. The temperature issue could be a problem though. That is an opportunity to damage insulation for example. On the evidence of our work, I don't think this is happening. Only a recent problem with a batch of switches gave me pause to think about this as a possible problem.

I think we need to look very closely at this and decide if we are "legal" and if not what we need to do to get legal. Compliance would be a risk reducer.

Please, let me know what you think and how you can help us.

Thank you,

Mark

From: Klein, James D
Sent: Tuesday, March 23, 2010 3:01 PM
To: Buchbinder, Mark D
Cc: Morris-Jr, Charles F
Subject: RE: Solder Station Temperatures

Mark,

I performed a seach in CMIS, see results below:

Report ID: CMIS001A

Search CMIS

Model Number: 601\ST2000 \STS900A\600; Mfg Name: AMS SALES\OMEGA\WAHL; Shop Code Perf: SL%;

	Control Number	Status	Model Number	Mfg Name	Noun Major	Shop Code Resp	Shop Code Perf	Procedure	Rev
1)	125023	STORED	601	AMS SALES	TESTER	SL200	SL200	01-0202-01	ORG
2)	125055	STORED	601	AMS SALES	TESTER	SL200	SL200	DOK-2	ORG
3)	126652	ACTIVE	601	AMS SALES	TESTER L	SL200	SL200	01-0202-01	ORG
4)	126661	NOCERT	601	AMS SALES	TESTER L	SL250	SL250		

It appears that the only one active in the STL inventory is the AM 601, Control Number 126652. I remember that back in the 90's we calibrated quite a few of these testers for St. Charles, however I beleive most of that work was sent to El Paso. I checked our calibration procedure and these testers are designed only to check the resistance from the soldering iron tip to ground for ESD purposes. Can you check and see what if any testers (check intruments) are being used in your work area?

Jim

From: Buchbinder, Mark D
Sent: Tuesday, March 23, 2010 2:11 PM
To: Klein, James D
Cc: Morris-Jr, Charles F
Subject: RE: Solder Station Temperatures

Also see the attached. Maybe the check instruments are distributed to the work areas. But still I would think Cal lab would be calibrating the check standards.

-Mark

From: Klein, James D
Sent: Tuesday, March 23, 2010 12:58 PM
To: Buchbinder, Mark D
Cc: Morris-Jr, Charles F
Subject: RE: Solder Station Temperatures

Mark,

The St. Louis Metrology Lab currently does not verify the temperature of any manual solder stations. With that being said, I did a little research and there are testers made that can perform these tests. It also appears that Pugent Sound Metrology tests several of the Weller WSD81's. I suppose the first step would be to define what your requirements are. Is there any Command Media driving this requirement? If so can you provide?

Thanks,

Jim

From: Morris-Jr, Charles F
Sent: Tuesday, March 23, 2010 11:51 AM
To: Klein, James D
Subject: FW: Solder Station Temperatures

What can you tell me.

Charley
MATES South
BT&E Test Support Operations
Rise above apathy.

From: Scott, TW
Sent: Tuesday, March 23, 2010 11:50 AM
To: Morris-Jr, Charles F
Subject: RE: Solder Station Temperatures

Jim Klien or Bill Delcoure can tell us this.

TW

From: Morris-Jr, Charles F
Sent: Tuesday, March 23, 2010 11:48 AM
To: Scott, TW
Subject: Fw: Solder Station Temperatures

Charley-Rise above apathy

From: Buchbinder, Mark D
To: Morris-Jr, Charles F
Cc: Rees, Daniel A
Sent: Tue Mar 23 11:42:14 2010
Subject: Solder Station Temperatures

Hello Charlie,

Do you have the inspection equipment to verify that manual solder stations are reporting the correct temperatures? How can we get the solder stations at TSS (Bldg 288) inspected on-site? We have twenty or so Weller model WSD 81.

If your group cannot do this inspection please suggest where we can get help.

Thanks,

Mark
(Buchbinder
Hardware Quality Engineering
TSS St. Louis
777-7097)

1620964

MAY-24-10 03:08 PM

IQDS Purge/Suspect Action Document

Purge Request: 1620964

Owner: 288K10B01C	Document Type: PU	Status: Voided

Problem

Initiation Date:	Originator:	Site:	Dept:
02-APR-10 14:45	Mark Buchbinder (1363498)	MO002	841W

Related Documents

Document Voided

Void Text:

Parts were not available for inspection because Supplier Manager and / or Buyer authorized vendor to pick up parts.

Voided By: Mark Buchbinder (1363498) 13-MAY-10 11:39

Description of Problem

Hole location on flanges, or position of flanges may not conform to b/p.

Modified By: Mark Buchbinder (1363498) 02-APR-10 14:49

Program:	Find Dept:	JICC:	Nonc Code:	Inspection Queue:
Army/Navy/MC Train	K10B-01		Y09	K877PURGE

Current Assignment Information

Work Message Inspect for hole location and flange location per b/p.
NCR009423B issued, disposition RTV, ten (10) pcs
E-SCAN #S-002A7059-10-0001C issued to Designs For Tomorrow, Inc requesting corrective action.

Queue: FILE **Assignee:**

Problem Item

Type:	PN	**Part Qty:**	0
Nbr:	90A103160-1001	**Material Code:**	
Name:	Plate - Interface Projector	**Unit Code:**	
Part Number Validation Override:	No	**Natl Stock Nbr:**	
Actual Cause Problem Item:	No	**Repair Doc Nbr:**	

Supplier Information	Defects		External Item Information	
Federal Mfg Code:	**Critical:**	0	**New Item:**	No
Purchase Order #:	**Major:**	0	**Overhauled:**	No
Supplier Nbr:	**Minor:**	0	**Date:**	
	Total:	0		

Serial Number(s)

Production Control	Inspection
Quantity of Parts Submitted to Inspection: 130	**Quantity of Parts Inspected:** -1 **Rejected:** **Nonconf Doc**
Completed: Kenneth Schlueter (318782) 05-APR-10 12:20	**Completed:**

Insp Dept: TSS

Purge Plan Msg:

Document Closed: Mark Buchbinder (1363498) 13-MAY-10 11:39

1620964

MAY-24-10 03:08 PM

Action

Request Action / Action Taken Statement

Production Control: Please locate all uninstalled parts and deliver to Quality Inspection crib.

Quality Inspection: Please inspect for conformance to blueprint (mechanical dimensions.)

Please ask Joe Wooldridge or Joe Matzka for additional information.

-Mark Buchbinder, QE
****

Quality Inspector reports that, with the approval of the Supplier Manager and or Buyer, parts were returned to vendor before he could do inspections. QE is going to void this document.
-M. Buchbinder, QE
Inspection originally wrote 10 of these on an NCR which drove the purge of 130 pieces. The 130 pieces were picked up from Bassik by the vendor and were never presented for inspection.

- John Ritch, Quality Inspection

Last Modified:	Mark Buchbinder (1363498)	13-MAY-10 11:35

Fleet Impacted Assessment Requested:	**FIA Document Number:**

Rational

Additional Text

1620964

MAY-24-10 03:08 PM

Attachments

IQDS Purge/Suspect Action History Document

Purge Request: 1620964 **Status:** Voided **Date Closed:** 13-MAY-10 11:39

Current Assignment

Site: MO002 **Queue:** FILE **Dept:** 841W

Assignee: **Phone:**

Routing History

	Site	Queue	Assignee	Status	Dept	Date In	Date Out
Q	MO002	288K10B01C		OP		02-APR-10 14:45	02-APR-10 14:53
A	MO002	288K10B01C		OP		02-APR-10 14:45	02-APR-10 14:53
S	MO002	288K10B01C		OP		02-APR-10 14:45	13-MAY-10 11:39
Q	MO002	288PCPURGE		OP		02-APR-10 14:53	05-APR-10 12:21
A	MO002	288PCPURGE		OP		02-APR-10 14:53	05-APR-10 12:21
Q	MO002	K877PURGE		OP		05-APR-10 12:21	06-MAY-10 15:10
A	MO002	K877PURGE		OP		05-APR-10 12:21	06-MAY-10 15:10
Q	MO002	K877PURGE		OP		06-MAY-10 15:10	06-MAY-10 15:10
A	MO002	K877PURGE		OP		06-MAY-10 15:10	06-MAY-10 15:10
Q	MO002	002134ACF		OP		06-MAY-10 15:10	06-MAY-10 15:11
A	MO002	002134ACF		OP		06-MAY-10 15:10	06-MAY-10 15:11
Q	MO002	288K10B01C		OP		06-MAY-10 15:11	13-MAY-10 11:39
A	MO002	288K10B01C		OP		06-MAY-10 15:11	06-MAY-10 15:11
A	MO002	288K10B01C	Mark Buchbinder (1363498)	OP	841W	06-MAY-10 15:11	13-MAY-10 11:39
Q	MO002	FILE		VD		13-MAY-10 11:39	
A	MO002	FILE		VD		13-MAY-10 11:39	

Request Action/Action Taken Statement

Production Control: Please locate all uninstalled parts and deliver to Quality Inspection crib.

Quality Inspection: Please inspect for conformance to blueprint (mechanical dimensions.)

Please ask Joe Wooldridge or Joe Matzka for additional information.

-Mark Buchbinder, QE

Modified BY: Mark Buchbinder (1363498) 02-APR-10 14:52

Request Action/Action Taken Statement

Production Control: Please locate all uninstalled parts and deliver to Quality Inspection crib.

Quality Inspection: Please inspect for conformance to blueprint (mechanical dimensions.)

Please ask Joe Wooldridge or Joe Matzka for additional information.

-Mark Buchbinder, QE

Inspection originally wrote 10 of these on an NCR which drove the purge of 130 pieces. The 130 pieces were picked up from Bassik by the vendor and were never presented for inspection.

- John Ritch, Quality Inspection

Modified BY: John Ritch (585158) 06-MAY-10 15:10